
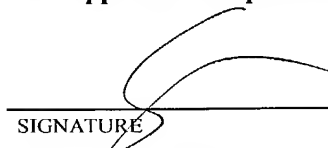


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| FORM PTO-1390<br>(REV 10-95)  |  | U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE |  | ATTORNEY'S DOCKET NUMBER<br><br><b>DCLERC 5</b>                          |  |
| <b>TRANSMITTAL LETTER TO THE UNITED STATES<br/>         DESIGNATED/ELECTED OFFICE (DO/EO/US)<br/>         CONCERNING A FILING UNDER 35 U.S.C. §371</b>  |  |   |  | U.S. APPLICATION NO. (If known, see 37 CFR §1.5)<br><br><b>10/088136</b> |  |
| INTERNATIONAL APPLICATION NO.<br><b>PCT/EP00/08966</b>  |  | INTERNATIONAL FILING DATE<br><b>14 SEPTEMBER 2000</b>   |  | PRIORITY DATE CLAIMED<br><b>15 SEPTEMBER 1999</b>                        |  |
| TITLE OF INVENTION<br><b>CONTAINER FOR GARBAGE COLLECTION</b>   |  |   |  |  |  |
| APPLICANT(S) FOR DO/EO/US<br><b>MERTENS, Joris, Georges, et al</b>  |  |   |  |  |  |
| <b>Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:</b>  |  |   |  |  |  |
| 1. <input checked="" type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a filing under 35 U.S.C. §371.<br>2. <input type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a filing under 35 U.S.C. §371.<br>3. <input type="checkbox"/> This express request to begin national examination procedures (35 U.S.C. §371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. §371(b) and PCT Articles 22 and 39(1).<br>4. <input checked="" type="checkbox"/> A proper Demand for International Preliminary Examination was made by the 19 <sup>th</sup> month from the earliest claimed priority date.<br>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. §371(c)(2))<br>a. <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau).<br>b. <input checked="" type="checkbox"/> has been transmitted by the International Bureau.<br>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).<br>6. <input type="checkbox"/> A translation of the International Application into English (35 U.S.C. §371(c)(2)).<br>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. §371(c)(3))<br>a. <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau).<br>b. <input type="checkbox"/> have been transmitted by the International Bureau.<br>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.<br>d. <input checked="" type="checkbox"/> have not been made and will not be made.<br>8. <input type="checkbox"/> A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. §371(c)(3)).<br>9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. §371(c)(4)).<br>10. <input type="checkbox"/> A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. §371(c)(5)).<br><b>Items 11. to 16. below concern document(s) or information included:</b><br>11. <input type="checkbox"/> An Information Disclosure Statement under 37 C.F.R. §§1.97 and 1.98.<br>12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. §§3.28 and 3.31 is included.<br>13. <input checked="" type="checkbox"/> A <b>FIRST</b> preliminary amendment.<br><input type="checkbox"/> A <b>SECOND</b> or <b>SUBSEQUENT</b> preliminary amendment.<br>14. <input type="checkbox"/> A substitute specification.<br>15. <input type="checkbox"/> A change of power of attorney and/or address letter.<br>16. <input type="checkbox"/> Other items or information: |  |   |  |  |  |

|  |              |   |   |                                      |  |
|--|--------------|---|---|--------------------------------------|--|
| U.S. APPLICATION NO. (if known, see 37 CFR §1.5)<br><b>10/088136</b>   |              | INTERNATIONAL APPLICATION NO.<br>PCT/EP00/08966 |   | ATTORNEY'S DOCKET NUMBER<br>DCLERC 5 |  |
| 17. <input checked="" type="checkbox"/> The following fees are submitted:<br><br><b>BASIC NATIONAL FEE (37 CFR §1.492 (a) (1) - (5)):</b><br><br>Search Report has been prepared by the EPO or JPO..... \$890.00<br><br>International preliminary examination fee paid to USPTO (37 CFR §1.482)..... \$710.00<br><br>No international preliminary examination fee paid to USPTO (37 CFR §1.482) but international search fee paid to USPTO (37 CFR §1.445(a)(2))..... \$740.00<br><br>Neither international preliminary examination fee (37 CFR §1.482) nor international search fee (37 CFR §1.445(a)(2)) paid to USPTO..... \$1040.00<br><br>International preliminary examination fee paid to USPTO (37 CFR §1.482) and all claims satisfied provisions of PCT Article 33(2)-(4)..... \$100.00<br><br><b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b> |              |   |   | <b>CALCULATIONS</b> PTO USE ONLY     |  |
|  |              |   |   |                                      |  |
| Surcharge of <b>\$130.00</b> for furnishing the oath or declaration later than months from the earliest claimed priority date (37 C.F.R. §1.492(e)). <input type="checkbox"/> 20 <input type="checkbox"/> 30   |              |   |   |                                      |  |
| CLAIMS   | NUMBER FILED | NUMBER EXTRA                                    | RATE  |                                      |  |
| Total claims   | 19 - 20 =    | 0   | x \$ 18.00  | \$0.00                               |  |
| Independent claims   | 6 - 3 =      | 3   | x \$ 84.00  | \$252.00                             |  |
| MULTIPLE DEPENDENT CLAIM(S) (if applicable)  |              |   | + \$ 280.00   |                                      |  |
| <b>TOTAL OF ABOVE CALCULATIONS =</b>   |              |   |   | \$1,142.00                           |  |
| Reduction of 1/2 for filing by small entity, if applicable. A Verified Small Entity Statement must also be   |              |   |   |                                      |  |
| <b>SUBTOTAL =</b>  |              |   |   | \$1,142.00                           |  |
| Processing fee of <b>\$130.00</b> for furnishing the English translation later than months from the earliest claimed priority date (37 C.F.R. §1.492(f)). <input type="checkbox"/> 20 <input type="checkbox"/> 30  |              |   |   |                                      |  |
| <b>TOTAL NATIONAL FEE =</b>  |              |   |   | \$1,142.00                           |  |
| Fee for recording the enclosed assignment (37 C.F.R. §1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 C.F.R. §§3.28, 3.31). \$40.00 per property.   |              |   |   |                                      |  |
| <b>TOTAL FEES ENCLOSED =</b>   |              |   |   | \$1,142.00                           |  |
|  |              |   |   | Amount to be refunded:               |  |
|  |              |   |   | charged:                             |  |
| a. <input checked="" type="checkbox"/> A check in the amount of <u>\$1,142.00</u> to cover the above fees is enclosed.<br><br>b. <input type="checkbox"/> Please charge my Deposit Account No. <u>13-3402</u> in the amount of \$_____ to cover the above fees. A duplicate copy of this sheet is enclosed.<br><br>c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>13-3402</u> . A duplicate copy of this sheet is enclosed.   |              |   |   |                                      |  |
| <b>NOTE: Where an appropriate time limit under 37 C.F.R. §§1.494 or 1.495 has not been met, a petition to revive (37 C.F.R. §1.137(a) or (b)) must be filed and granted to restore the application to pending status.</b>  |              |   |   |                                      |  |
| SEND ALL CORRESPONDENCE TO: Customer Number 23,599   |              |   |   |                                      |  |
| <br><b>23599</b><br>PATENT TRADEMARK OFFICE   |              |   | SIGNATURE<br><br><b>Anthony J. Zelano</b><br>NAME<br><u>27,969</u><br>REGISTRATION NUMBER |                                      |  |
| Filed: 15 MARCH 2002<br>AJZ:kmo  |              |   |   |                                      |  |

**IN THE UNITED STATES DESIGNATED/ELECTED OFFICE**

International Application No. : PCT/EP00/08966  
International Filing Date : 14 SEPTEMBER 2000  
Priority Date(s) Claimed : 15 SEPTEMBER 1999  
Applicant(s) (DO/EO/US) : MERTENS, Joris, et al.

Title: CONTAINER FOR GARBAGE COLLECTION

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

SIR:

Prior to calculating the national fee, and prior to examination in the National Phase of the above-identified International application, please amend as follows:

**IN THE CLAIMS:**

Please cancel claims 1-21.

Please insert new claims 22-40 as follows:

22. Container for temporary storage of substances, e.g. garbage, comprising a supporting body and a corresponding lid, and a means for housing a mixture of bacteria, wherein said mixture of bacteria is able to provoke a de-odourizing effect, and wherein said mixture of bacteria is chosen from the group comprising clostridium, lactobacillus and entero-bacteria.
23. Container according to claim 1 further comprising a feed for the growth of the mixture of bacteria mainly consisting of proteins dissolved in a mixture of preferentially sugars and carbohydrates.

24. Container for temporary storage of substances, e.g. garbage, comprising a supporting body and a corresponding lid; a means for housing a mixture of bacteria, wherein said mixture of bacteria is able to provoke a de-odourizing effect, and wherein said mixture of bacteria is chosen from the group comprising clostridium, lactobacillus and entero-bacteria; a feed for the growth of said mixture of bacteria, mainly consisting of proteins dissolved in a mixture of preferentially sugars and carbohydrates, and a deodorant.
25. Container according to claim 1 comprising means for allowing circulation of condensation inside the container.
26. Container according to claim 4 comprising air passages for allowing circulation of condensation inside the container.
27. Container for temporary storage of substances, e.g. garbage, comprising a supporting body and a corresponding lid; a means for housing a mixture of bacteria, wherein said mixture of bacteria is able to provoke a de-odourizing effect, and wherein said mixture of bacteria is chosen from the group comprising clostridium, lactobacillus and entero-bacteria; and a reservoir for housing said mixture of bacteria, whereby said reservoir is completely contouring the content of the container.
28. Container according to claim 6 comprising several reservoirs for housing a mixture of bacteria, contouring the content of the container, whereby said reservoirs are separated.
29. Container for temporary storage of substances, e.g. garbage, comprising a supporting body and a corresponding lid; a means for housing a mixture of bacteria, wherein said mixture of bacteria is able to provoke a de-odourizing effect, and wherein said mixture of bacteria is chosen from the group comprising clostridium, lactobacillus and entero-bacteria; and one or several reservoirs for housing a mixture of bacteria, whereby said reservoirs, contouring the content of the container, are separated and situated at the bottom of the container.

30. Container according to claim 8 whereby said reservoir is fixed, permanently or detachable, to the upper part of the container.

31. Container according to claim 8 comprising a grid covering said reservoirs, and if present the spaces in between these reservoirs.

32. Container according to claim 1 comprising means for dispersing said mixture of bacteria directly onto the content of the container.

33. Container according to claim 1 having a means for housing a content holder, e.g. garbage bag.

34. Container according to claim 1 having rolling elements.

35. Container according to claim 1 having an output means provided at the bottom allowing for drawing off fluids.

36. Container according to claim 1 mainly comprising a holding body covered by a lid, having at least one reservoir for fluids with a depth smaller than the depth of that of the container.

37. Detachable reservoir suitable for housing a mixture of bacteria in a container.

38. Reservoir according to claim 16 provided with a grid and pumping means.

39. Method for treating garbage in a sealed environment, such as a container, especially household, comprising the steps of collecting garbage in a container and allowing contact of odour-components of said garbage with the de-odourising bacteria.

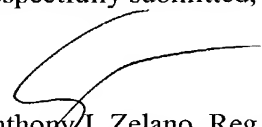
40. Method according to claim 18 wherein the contact is enhanced via condensation and the circulation of the odour-components in the container.--

REMARKS

The purpose of this Preliminary Amendment is to eliminate multiple dependent claims in order to avoid the additional fee. Applicants reserve the right to reintroduce claims to canceled combined subject matter.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "**Version With Markings to Show Changes Made**".

Respectfully submitted,



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Date:15 MARCH 2002



**CONTAINER FOR GARBAGE COLLECTION**

## Field of the invention

The invention relates to an improved apparatus for garbage collection, more specifically for the odour-free disposal of domestic garbage, garden garbage and such.

More specifically this invention relates to an apparatus for odourless garbage collection, comprising means for de-odourizing and/or a deodorant, for the purpose of neutralising bad-smelling fumes originating from the garbage, directly or indirectly via chemical and/or biological processes.

## Background of the invention

It is commonly known that garbage or waste such as domestic garbage, garden garbage and the like are disposed of in plastic garbage bags, put at the disposal of community members by the council for instance. Once you bring into use such a plastic bag, it is handy to hang it in an apparatus comprising a body frame and a cover, or in a closed container. If a bag partly filled with garbage is left like that for a certain time, the bad smell increases rapidly, especially when opening the lid. One is then tempted to throw away a halfly filled bag.

To solve this odour-problem it is commonly known to use double-sided containers, comprising a fluid in between the inner and the outer side to neutralize the garbage odours by the presence of a de-odouriser and possibly a deodorant. A similar apparatus is described in US 1,462,693, more precisely a double-sided metal container, with a disinfectant in between the two sides.

A great disadvantage of such an apparatus is the difficulty to produce it in one piece, thus resulting in either a complex expensive manufacturing process or a work-intensive and costly assembly of the different pieces after the actual manufacturing. Another disadvantage is that the space between the two sides is so narrow and profound that it cannot be cleaned effectively if garbage is dropped in it by accident.

New is that the present invention is an improved apparatus for garbage collection whereby it is simple to manufacture said apparatus and whereby the space that holds the fluid can be filled and cleaned easily.



US 1,490,314 and US 2,425,612 use a disinfectant or a deodorant for solving the odour-problem. A disadvantage is however that the odour-reduction is limited. The present invention has a greater odour-reduction due to its active de-odourising elements.

5           Summary of the invention

The improved apparatus for garbage collection according to the invention mainly comprises a container for temporary storage of substances, e.g. garbage, comprising a supporting body and a corresponding lid, said container further comprises means for housing a mixture of bacteria. In a preferred embodiment the mixture of bacteria comprises Clostridium, Lactobacillus and Enterobacteria. This mixture results in a very efficient de-odourisation of garbage, in particular organic waste.

In a first preferential embodiment the reservoir is ring-shaped and detachable from the container, comprising a collar that can be hooked at the top of the container.

In a second embodiment the apparatus comprises an extra reservoir for fluids situated at the bottom of the container. For the purpose of making it possible that the fumes of the garbage bag get in contact with the fluids containing the de-odouriser, the ring-shaped reservoir can be made in parts, namely it can exist of several reservoirs with air passages in between that allow circulation of condensation. For the same purpose, watertight passageways could be made in the ring-shaped reservoir, e.g. tubes mounted at the bottom of the ring-shaped reservoir that reach just above the level of fluid.

In a third embodiment the reservoir is made detachable comprising a pumping means for dispersing the fluids directly onto the content of the container.

To prevent pollution of the fluid it is preferential to mount a grid or gauze or similar on top of each reservoir.

For the purpose of holding the garbage bag in place, the inner edge of the reservoir is provided with an edge with a groove, with which a binding agent, elastic or not, can be combined, so that the upper part of the garbage bag can be housed between said edge and said binding agent.

Another object of the invention is to provide a longer duration of odour-free housing of the garbage in the container, which results in a compactation, allowing more waste (kg) to be contained in the same container volume.

### Brief description of the drawings

To illustrate the features of the invention we present three preferential embodiments of an improved apparatus for garbage collection. A reference is made to the following figures:

Figure 1 is a vertical cross-section of an apparatus according to the invention.

Figure 2 represents part F2 of Figure 1 on a larger scale.

Figure 3 is a cross-section following line III-III of Figure 1.

Figure 4 shows a cross-section similar to that of Figure 1 for a variant.

Figure 5 is a cross-section following line V-V of Figure 4.

Figure 6 is a cross-section following line VI-VI of Figure 4.

Figure 7 is a perspective view of an embodiment of a detachable reservoir.

Figure 8 is a perspective view of an embodiment of a grid for a detachable reservoir of Figure 7.

Figure 9 is a planview of a grid-structured handle for the grid of Figure 8.

## Detailed description of the invention

A first embodiment of an apparatus according to the invention comprises, as shown in Figures 1 to 3, a reservoir **1** with a side **2** and a bottom plate **3**.

As shown in Figure 1 the container 1 can be closed off by a lid 4, comprising a surrounding edge 5 for the purpose of well closing off the container 1. The container 1 also comprises a handgrip 6 for opening and closing the lid 4.

Figures 2 and 3 show the container 1 comprising a ring-shaped reservoir 7 for fluid 8, said reservoir 7 extends over an angle of 360° and consists in this embodiment of an outer side 9 and an inner side 10, connected in this case to an inward running bottom 11.

The outer side **9** of the reservoir **7** comprises on nearly its entire outer side **12** a U-shaped collar **13**, which is interrupted only by a hinge **14**, by which the said lid **4** is connected to the reservoir **7**, said U-shaped collar **13** is made so that it fits exactly on the upper edge **15** of the side **2** of the container **1**.

The inner side **10** of the reservoir **7** comprises at its top edge **16** a surrounding groove **17** which can be combined with a binding agent **18**, elastic or not, e.g. a cord, a ribbon, a rubber band or similar.

The upper side of reservoir 7 is preferentially covered by a ring-shaped grid 19, a gauze or similar. In a variant the ring-shaped reservoir 7 can be made so that it extends over an angle of less than 360°.

Figures 4, 5 and 6 illustrate a second embodiment of the apparatus according to the invention.

This embodiment also comprises a container **1**, similar to that of the first embodiment, but it now comprises an extra reservoir **20** situated at the bottom **11** of the container **1**.

The reservoir **20** comprises a ring-shaped collar **21** at the inner side of the container **1**, whereby on top of said collar **21** there is a grid **22**, a gauze or similar, for the purpose of appropriately covering the extra reservoir **20**. To prevent the grid **22** from sliding over said collar **21**, collar **21** comprises an edge **23**.

For the purpose of making it possible that the fumes inside the garbage bag **24** and the de-odourising bacteria in the fluid **8** under the garbage bag get in contact , the ring-shaped reservoir **7** is made by a few, in this case four, reservoirs **25**, where in between there are airholes **26**. They act as condensation pass throughs.

It is preferred to cover the reservoirs **25** and the airholes **26** in between by the ring-shaped grid **19**, gauze or similar, so that the garbage can not drop in the reservoirs **25**, nor between the garbage bag **24** and the side **2** of the container **1**. By the presence of these grids, namely the ring-shaped grid **19** and the grid **22**, the fluid **8** remains in permanent contact with the odours created in the garbage bag, but said grids also prevent garbage falling in said reservoirs **7**, respectively **25** and **20**.

Due to the temperature increase caused by biological processes in the organic waste, fluids in the organic waste will condensate. The fumes caused by this process of condensation are circulated by the airholes **26**. These provide for an efficient contact between fumes and bacteria.

It is also possible, in a variant of the above embodiments, to omit the outer side **9** of the reservoir **7** or the reservoirs **25**, whereby in that state the side **27** of bottom **11** of reservoir **7**, respectively reservoirs **25**, is fixed watertight to the side **2** of container **1**, e.g. by gluing or welding side **27** to side **2**.

In yet another variant watertight passthroughs can be made in the ring-shaped reservoir 7, e.g. tubes fixed in bottom 11 that reach above fluid level, said tubes making air passages, by which

the garbage bag **24** fumes and the fluids **8** with de-odourising under the garbage bag **24** make contact.

In a third embodiment, or additionally to the previous two embodiments, an extra reservoir as shown in Figures 7, 8 and 9 can be added to a container. This embodiment allows a mixture of bacteria to be dispersed directly onto the garbage. This improves the de-odourising effect. Dispersing can be made possible via a suitable pumping means. Figure 7 shows the extra reservoir **29** that is fixed to the upper side of the container by means of the holding elements **31**. Figure 8 shows a grid **34** that covers reservoir **29**. Segment **33** of the grid **34** fits into segment **32** of the reservoir **29**. Grid **34** has an upstanding border **35** that fits into segment **30** of reservoir **29**. Grid **34** further comprises an opening **36** for a handle, an opening **37** for pumping means and a holder **38** for a deodorant. Figure 9 shows a grid-structured handle means **39**. The grid-structured handle **39** comprises a handle **40** of which the ends are fixed into the holes **41** and further comprises an opening **42** for pumping means. The grid-structured handle **39** is first put on top of reservoir **29** whereafter grid **34** is placed onto the handle. The grid-structured handle **39** thus enables safe lifting of grid **34**. The grid-structure of grid **34** and that of the grid-structured handle **39** is identical.

The use of said apparatus according to the invention is very simple and is described as follows.

Reservoir **7**, respectively reservoirs **25** and the extra reservoir **20**, will be filled with a suitable fluid **8**, e.g. water comprising a means for neutralising odours. Said means will preferentially comprise a known de-odouriser possibly also a deodorant is added.

In its most preferential embodiment said means will comprise a mixture of bacteria having de-odourising means, and said means will also comprise a deodorant. The bacteria take care of neutralising the obnoxious fumes, while the deodorant will spread a nice smell. When the surrounding temperature reaches above 25°C, the effect of the deodorant diminishes, while the bacteria are growing best en bring about the desired de-odourising effect.

The mixture of bacteria preferentially comprises Clostridium, Lactobacillus and Enterobacteria. The bacteria have been mutated to live long and to produce enzymes during splitting that neutralise odour-components. Said mixture of bacteria comprises non-pathogene bacteria that

are as well aerobe, as anaerobe as optionally aerobe and anaerobe. A special feed supply is used comprising mainly proteins diluted with sugars and carbohydrates.

Said mixture of bacteria has the capacity to break down and neutralise smelling components and odours, also pig manure, smelling and polluted waters like ponds and streams.

Said mixture of bacteria is resistant against relatively high temperatures.

Tests on the evolution of the concentration of odour in a treated and a non-treated container proved, as reported in Table 1, a 95% reduction of odour after 2 weeks in the treated container (101 755 ppm) as to the untreated container (269 015 ppm).

| Day | Untreated garbage | Treated garbage<br>according to invention |
|-----|-------------------|---|
| 1   | 13 047            | 5 425                                     |
| 8   | 44 697            | 51 350                                    |
| 15  | 269 015           | 101 755                                   |
| 22  | 755 139           | 15 139                                    |

Table 1: Evolution of concentration of odour (ppm)

Tests on the evolution of the concentration of ammonia in said container showed, as reported in Table 2, a reduction of 68% after 2 weeks.

| Day | Untreated garbage | Treated garbage<br>according to invention |
|-----|-------------------|---|
| 1   | < 2               | < 2                                       |
| 8   | < 2               | < 2                                       |
| 15  | 2,8               | < 2                                       |
| 22  | 7,0               | 2,2                                       |

Table 2: Evolution of concentration of ammonia (ppm)

After applying the fluids 8 in the reservoirs 7, respectively reservoirs 25 and reservoir 20, said reservoirs are covered with the ring-shaped grid 19, respectively grid 22.

Over the inner side of reservoir 7, respectively reservoirs 25, a garbage bag 24 or similar, e.g. known for garbage collection, is put in, whereby to keep the garbage bag 24 in place, the free end of the garbage bag 24 is placed over the groove 17, whereafter a suited, elastic or not, binding

agent **18** is fixed over the free end of the garbage bag **24** and the groove **17**, thus clasp-  
ing the garbage bag **24** between the inner side **10** of the reservoir **7**, respectively reservoirs **25**, and the  
binding agent **18**.

When opening the said equipped container by means of the lid **4**, the annoying smells,  
5 originating from the garbage already present within, that would normally be spread, are not  
perceptible anymore, since they have been neutralized. Said smells are concentrated at the top of  
the apparatus, more specifically against the lid **4**,

The ring-shaped grid **19** prevents the spilling of garbage in the reservoir **7**, respectively the  
reservoirs **25** or in between the garbage bag **24** and the inner side **2** of the container **1**.

10 In the second embodiment the grid **22** supports the garbage bag **24** and prevents said  
garbage bag **24** of hanging in the fluids **8** of the extra reservoir **20** with its bottom side **28**.

An additional advantage of an apparatus according to the invention is that, if by accident  
garbage is spilled nevertheless through the grid **19** in the reservoir **7**, respectively the reservoirs  
15 **25**, said reservoirs can easily be cleaned.

If the reservoir **7** or the reservoirs **25** is/are fixed permanently to the side **2** of the container  
**1**, and garbage is spilled in these reservoirs by accident, then the spilt garbage can easily be  
removed because the reservoirs are shallow.

If the reservoir **7** is not fixed permanently to the side **2** of the container **1**, but is hooked over  
the upper side **15** of the container **1** by means of a collar **13**, then reservoir **7** can simply be  
20 removed from the container **1** for cleaning and put back afterwards.

An additional advantage of the apparatus according to the invention, is the fact that  
because reservoir **7**, respectively reservoirs **25**, contain so little fluid **8**, the weight of the apparatus  
is limited to a minimum, thus enabling that said apparatus can be moved around easily.

Yet another advantage of the second embodiment, as described in Figures 4, 5 and 6, is  
25 that the presence of the extra reservoir **20** improves the entire stability of the apparatus, because  
the centre of gravity is lower.

Said apparatus can be used in all possible places, inside or outside the house, bad smells  
are eliminated completely, the apparatus can very easily be cleaned, is lightweight and has a good  
stability.

It is self evident that neither the container, nor the reservoirs need to be circle-shaped, but that they can be of any shape, be it e.g. square, hexagonal or any other geometrical or non-geometrical shape.

It is clear that the present invention is not limited in any way to the embodiments given as  
5 examples in the above Figures, but it can resort to any shape and size without going beyond the scope of the invention.

**CLAIMS**

1. Container for temporary storage of substances, e.g. garbage, comprising a supporting body and a corresponding lid, said container further comprises means for housing a mixture of bacteria.

2. Container according to claim 1 wherein the mixture of bacteria comprises a de-odourising effect.

3. Container according to claim 2 wherein the mixture of bacteria comprises clostridium, lactobacillus and entero-bacteria.

4. Container according to any of the claims 1 – 3 comprising a feed supply for the growth of the mixture of bacteria consisting of mainly proteins dissolved in a mixture of preferentially sugars and carbohydrates.

5. Container according to any of the claims 1 – 4 further comprising a deodorant.

6. Container according to any of the claims 1 – 5 comprising means for allowing circulation of condensation inside the container.

7. Container according to claim 6 comprising air passages for allowing circulation of condensation inside the container.

8. Container according to any of the claims 1 – 7 comprising a reservoir for housing a mixture of bacteria, whereby said reservoir is completely contouring the content of the container.

9. Container according to claim 8 comprising several reservoirs for housing a mixture of bacteria, contouring the content of the container, whereby said reservoirs are separated.

10. Container according to any of the claims 1 – 9 comprising a reservoir for housing a mixture of bacteria, whereby said reservoir is situated at the bottom of the container

11. Container according to any of the claims 1 – 10 comprising a reservoir as described in claim 8 or 9 fixed, permanently or detachable, to the upper part of the container.

12. Container according to any of the claims 1 – 11 comprising a grid covering said reservoirs, and if present the spaces in between these reservoirs.

13. Container according to the claims 1 – 12 comprising means for dispersing said mixture of bacteria directly onto the content of the container.

14. Container according to any of the previous claims 1 – 13 having a means for housing a content holder, e.g. garbage bag.



15. Container according to any of the previous claims 1 – 14 having rolling elements.

16. Container according to any of the previous claims 1 – 15 having an output means provided at the bottom allowing for drawing off fluids.

17. Container according to any of the claims 1 – 16, mainly comprising a holding body  
5 covered by a lid, having at least one reservoir for fluids with a depth smaller than the depth of that of the container.

18. Detachable reservoir suitable for housing a mixture of bacteria in a container according to any of the claims 1 – 17.

19. Reservoir according to claim 18 provided with a grid and pumping means.

10 20. Method for treating garbage in a sealed environment, such as a container, especially household, comprising the steps of collecting garbage in a container and allowing contact of odour-components of said garbage with the de-odourising bacteria.

21. Method according to claim 20 wherein the contact is enhanced via condensation and the circulation of the odour-components in the container.

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  - *Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.*

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**WO 01/19707 A1**

**(54) Title:** CONTAINER FOR GARBAGE COLLECTION

**(57) Abstract:** The invention relates to a container for garbage collection, more specifically for the odour-free disposal of domestic garbage, garden garbage and such. More specifically this invention relates to a container for odourless garbage collection, comprising means for de-odourizing and/or a deodorant, for the purpose of neutralising bad-smelling fumes originating from the garbage, directly or indirectly via chemical and/or biological processes.

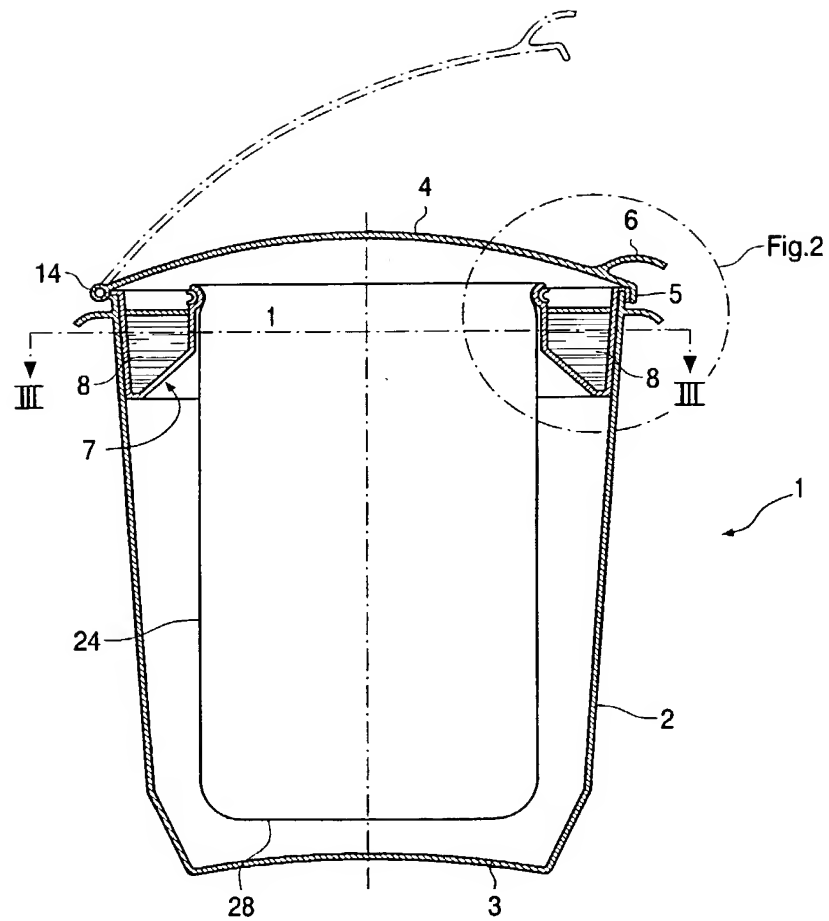


FIG. 1

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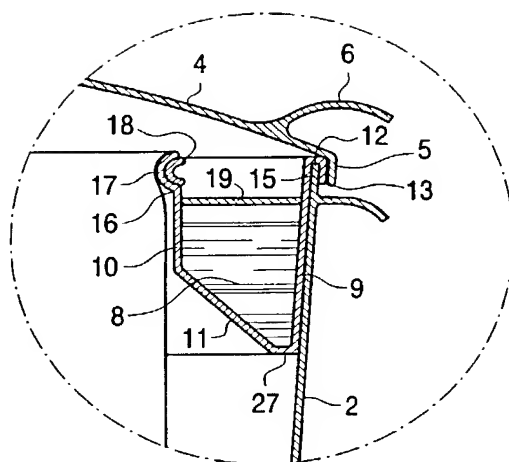


FIG. 2

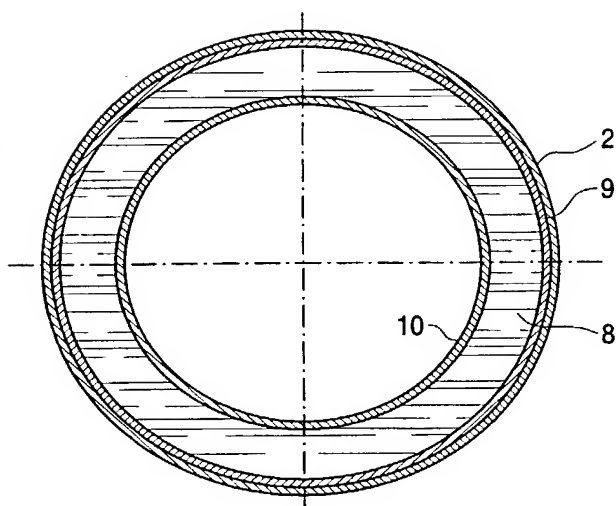


FIG. 3

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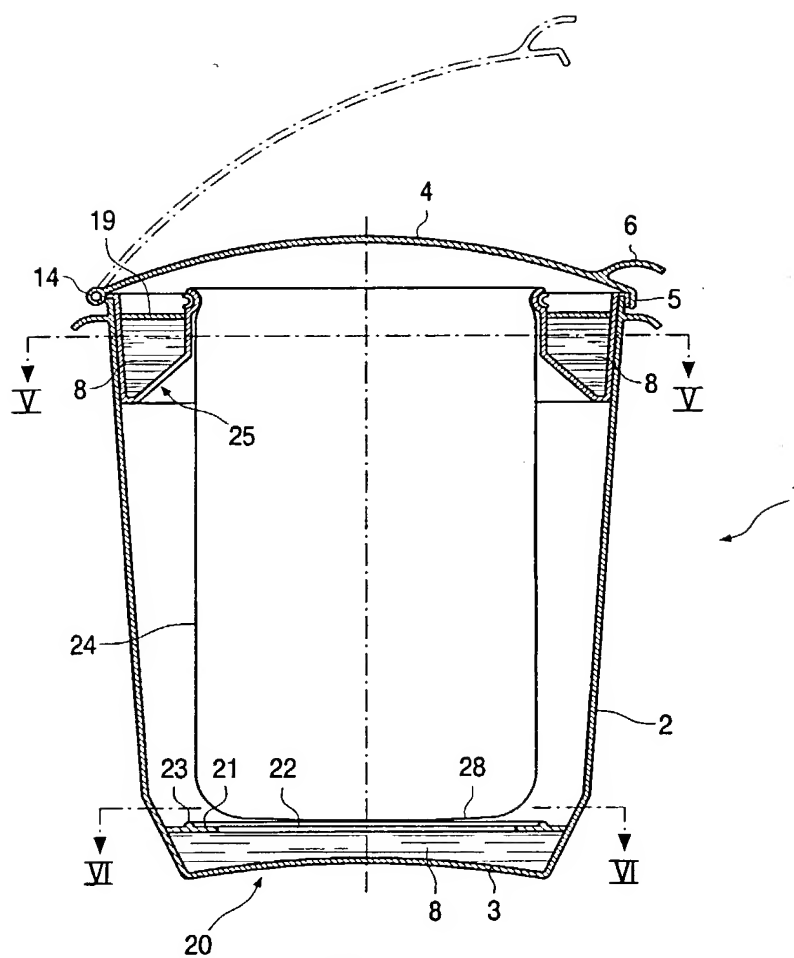


FIG. 4

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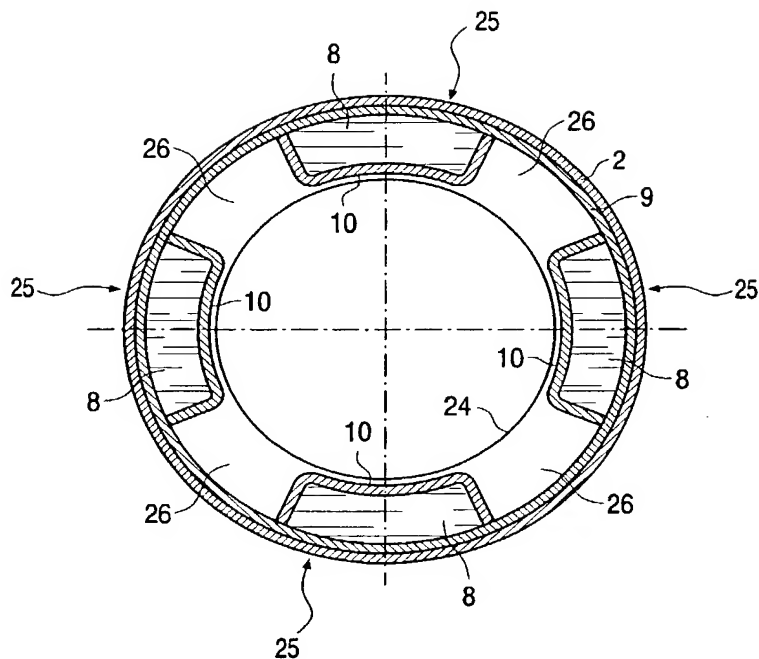


FIG. 5

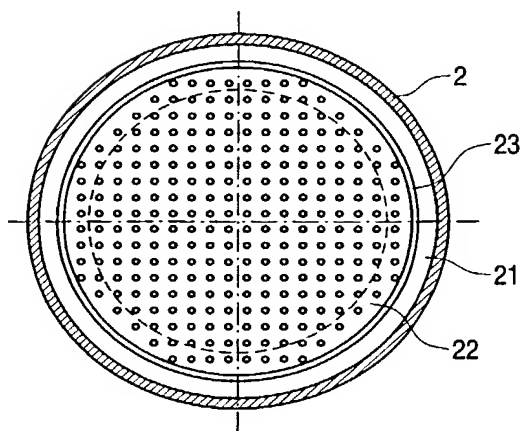


FIG. 6

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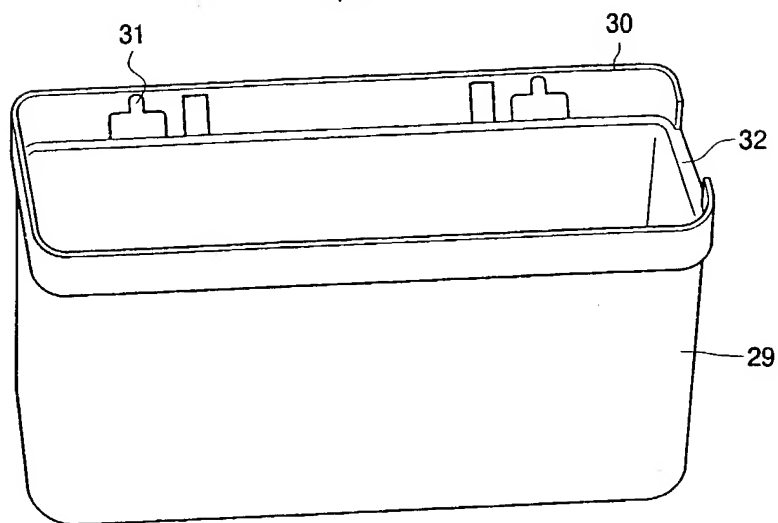


FIG. 7

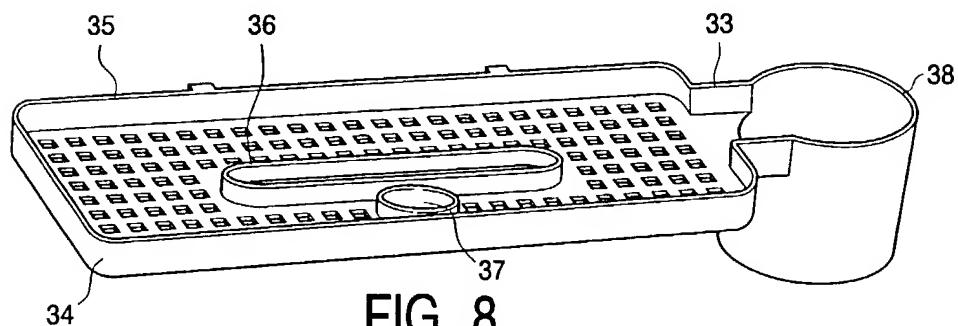


FIG. 8

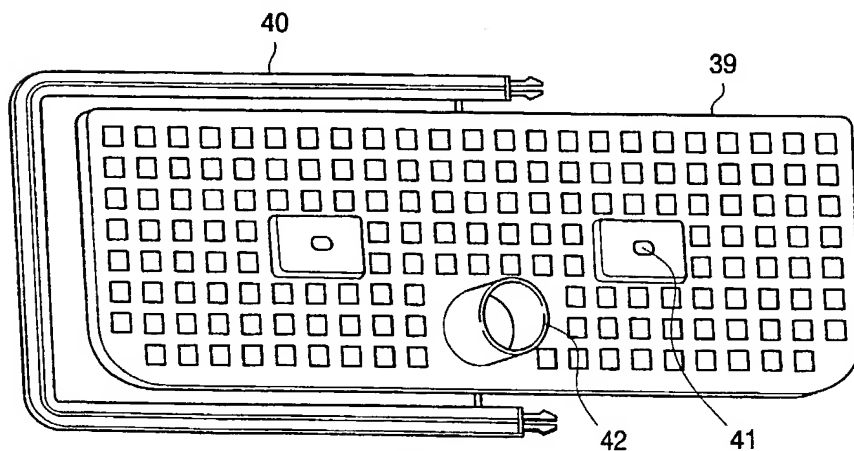


FIG. 9

Attorney Docket Number: DCLERC 5

## DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

## CONTAINER FOR GARBAGE COLLECTION

the specification of which

☐ is attached hereto

■ was filed on 09/14/00 as United States Application Number or PCT International  
 Application Number PCT/EP00/08966 and (if applicable) was amended on \_\_\_\_\_

I hereby authorize our attorneys to insert the serial number assigned to this application.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR §1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

| PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 USC §119 |         |                      |                  |
|--|---------|----------------------|------------------|
| APPLICATION NO.  | COUNTRY | DAY/MONTH/YEAR FILED | PRIORITY CLAIMED |
| 9900615.   | BELGIUM | 15/09/1999           | YES              |
|  |         |                      |                  |

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below.

| PROVISIONAL APPLICATION(S) UNDER 35 U.S.C. §119(e) |             |
|--|-------------|
| APPLICATION NUMBER                                 | FILING DATE |
|  |             |

I hereby claim the benefit under 35 U.S.C. §120 of any United States application, or §365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. §120.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

| PRIOR U.S./PCT INTERNATIONAL APPLICATION(S) DESIGNATED FOR BENEFIT UNDER 37 U.S.C. §120 |             |                                       |
|---|-------------|---------------------------------------|
| APPLICATION NO.   | FILING DATE | STATUS — PATENTED, PENDING, ABANDONED |
|   |             |                                       |

I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith: I. William Millen (19,544); John L. White (17,746); Anthony J. Zelano (27,969); Alan E.J. Branigan (20,565); John R. Moses (24,983); Harry B. Shubin (32,004); Brion P. Heaney (32,542); Richard J. Traverso (30,595); John A. Sopp (33,103); Richard M. Lebovitz (37,067); John H. Thomas (33,460); Catherine M. Joyce (40,668); Nancy J. Axelrod (44,014); James T. Moore (35,619); James E. Ruland (37,432); Jennifer J. Branigan (40,921) and Robert E. McCarthy (46,044)



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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

|  |                               |
|--|-------------------------------|
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| Post Office Address  |                               |
| Full Name of additional joint inventor (given name, family name)         |                               |
|  |                               |
| Signature  | Date                          |
| Residence  | Citizenship                   |
| Post Office Address  |                               |
| Full Name of additional joint inventor (given name, family name)         |                               |
|  |                               |
| Signature  | Date                          |
| Residence  | Citizenship                   |
| Post Office Address  |                               |

☐ Additional joint inventors are named on separately numbered sheets attached hereto.